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Applicant(s): Shcherbakova et al.

Docket No.

50821/5

Application No.

10/531,616

Filing Date

April 12, 2005

Examiner

Tamthom Ngo Truong

Customer No.

32642

Group Art Unit

1624

Invention: QUINAZOLINONE COMPOUNDS AS CALCILYTICS

I hereby certify that this Information Disclosure Statement (including the items listed below)

(Identify type of correspondence)

is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope

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APRIL 17, 2006

(Date)

Kevin B. Laurence

(Typed or Printed Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

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Transmitted: Information Disclosure Statement (3 pgs.)

Descriptive paragraphs (1 pg.)

PTO-Form 2038 Charging the amount of \$180

PTO-Form 1449 listing forty-four (44 references (2 pgs.)

Copies of thirty-six (36) references are enclosed

Transmittal for Information Disclosure Statement (2 pgs.)

Certificate of Mailing by First Class Mail (1 pg.)

Postcard

PATENT APPLICATION  
Docket No.: 0050821

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Shcherbakova et al.

Serial No.: 10/531,616

Art Unit  
1624

Filed: April 12, 2005

Title: QUINAZOLINONE COMPOUNDS AS CALCILYTICS

Examiner: Tamthom Ngo Truong

Confirmation No.: 4723

Customer No.: 21975

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R § 1.97**

TO THE COMMISSIONER FOR PATENTS:

1. Pursuant to the duty of disclosure, documents listed on the accompanying Form PTO-1449 (or equivalent) are presented for the Examiner's consideration.
- ☐ Copies of listed documents are enclosed. (37 CFR § 1.98(a))
- ☐ Copies of listed U.S. patent documents are omitted because this application was filed after June 30, 2003 and is, thus, subject to image file wrapper processing.
- ☒ Copies of listed foreign patent documents and/or non-patent literature are enclosed. (37 C.F.R. § 1.98(a)(2))
- ☐ Copies of the documents listed on sheet(s) \_\_\_\_\_ of Form PTO-1449 (or equivalent) are omitted because (1) they are already of record in U.S. Patent Application No. \_\_\_\_\_, filed \_\_\_\_\_, on which this application relies for an earlier filing date under 35 U.S.C. § 120; and (2) any information disclosure statement filed in the prosecution of Application No. \_\_\_\_\_, complies with 37 CFR §§ 1.98(a) through (c). (37 C.F.R. § 1.98(d))

2. ☐ The Examiner's attention is directed to the enclosed copy of copending U.S. Patent Application No. \_\_\_\_\_, filed \_\_\_\_\_, for \_\_\_\_\_, which is cited in this application.
3. This information disclosure statement is being submitted (check box a., b., or c.):
- a. ☐ Within three months of the filing date of a national application or entry of the national stage in an international application; or before the mailing of a first Office action on the merits; or before the mailing of a first Office action after the filing of a request for continued examination under 37 CFR 1.114. (No statement under 37 CFR 1.97(e) is required.); or
- b. ☒ After the period set forth in paragraph 3a, but before the mailing date of either a final action, a notice of allowance, or an action that otherwise closes prosecution in the application. (Check box i. or ii.)
- i. ☐ A \$180.00 information disclosure statement submission fee set forth in 37 CFR 1.17(p) is enclosed, or
- ii. ☐ A statement specified by 37 CFR 1.97(e) is set forth below; or
- c. ☐ After the mailing date of a final action or notice of allowance and on or before payment of the issue fee. A statement specified by 37 CFR 1.97(e) is set forth below. Enclosed is a \$180.00 information disclosure statement processing fee set forth in 37 CFR 1.17(p).
4. If a statement specified by 37 CFR 1.97(e) is required, the attorney or agent signing below hereby states that:
- ☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement; or
- ☐ no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement.

5. ☒ A concise explanation of the relevance of each document not in the English language and/or selected documents in the English language is included.

DATED this 17<sup>TH</sup> day of APRIL, 2006.

Respectfully submitted,

  
Kevin B. Laurence  
Registration No. 38,219

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**CUSTOMER NO. 21975**

### JP9286792

**PROBLEM TO BE SOLVED:** To obtain the subject new compound derivative, which is a specific phosphonic diester derivative having the quinazolinone skeleton, having hypoglycemic actions and capable of manifesting excellent efficacies with a low dose and useful as an active ingredient, etc., of a medicine such as a therapeutic agent for diabetes. **SOLUTION:** This new phosphonic diester derivative is represented by formula I (R<1> to R<4> are each H, a halogen, a lower alkyl, a lower alkoxy, amino, nitro, etc.; R<5> is a lower alkyl, a lower alkenyl, phenyl, etc.; R<6> and R<7> are each a lower alkyl; A is a thiophene ring, a pyrazine ring, a lower alkylene or a single bond) and is capable of manifesting hypoglycemic actions and excellent efficacies with a low dose and useful as a therapeutic agent, etc., for diabetes. This compound is obtained by reacting 2-amino-N-substituted benzamides represented by formula II with a dialkoxyphosphorylcarboxylic acid halide represented by formula III (X is a halogen) in the presence of a deacidifying agent in a solvent and then carrying out the cyclizing reaction of the reactional product.

### WO95/24410

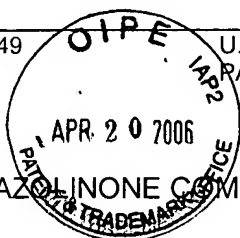
A phosphonic diester derivative represented by general formula (1) and useful as a remedy and preventive for hyperlipidemia, hypertension, diabetes, and so forth. In formula (1) R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>6</sup> represent each independently hydrogen, lower alkyl, halogen, nitro, etc.; R<sup>4</sup> represents phenyl, lower alkyl, phenylalkyl, etc.; R<sup>5</sup> represents lower alkyl; R<sup>7</sup> represents lower alkoxy, hydroxyl, phenyl, or phenylated lower alkoxy or lower alkylamino wherein the phenyl group may be halogenated; X<sup>1</sup> and X<sup>2</sup> represent each oxygen or sulfur; A represents oxygen or a single bond; and Z represents lower alkylene.

### WO97/08153

A novel process comprising cyclizing a compound represented by general formula (1), wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are the same or different and each represents hydrogen, lower alkyl, etc.; R<sup>5</sup> represents phenyl, etc.; and R<sup>6</sup> represents lower alkyl, etc.; by treating with a halogenated trialkylsilane in the presence of a base to thereby give a series of quinazolin-4-one derivatives represented by general formula (2), wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are each as defined above, which are useful as drugs and intermediates in the synthesis thereof in a high yield while suppressing the formation of by-products.

# INFORMATION DISCLOSURE CITATION

FORM PTO-1449  
(REV. 7-80)



U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET  
NO.

50821/5

APPLICATION NO.

10/531,616

Title: QUINAZOLINONE COMPOUNDS AS CALCILYTICS

Art Unit: 1624

Confirmation No.: 4723

Customer No.: 32642

APPLICANT – Shcherbakova et al.

FILING DATE-

April 12, 2005

EXAMINER:

Tamthom Ngo  
Truong

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1	5,162,325	11/10/1992	Chakravarty et al.	514	259	05/07/1991
	2	5,204,354	04/20/1993	Chakravarty	514	259	02/14/1992
	3	5,236,927	08/17/1993	Jones et al.	514	259	12/12/1990
	4	5,238,942	08/24/1993	Chakravarty	514	259	04/16/1992
	5	5,240,928	08/31/1993	Allen et al.	514	259	03/06/1991
	6	5,290,780	03/01/1994	Venkatesan et al.	514	259	01/14/1992
	7	5,304,565	04/19/1994	Morimoto et al.	514	340	03/07/1991
	8	5,385,894	01/31/1995	De Laszio et al.	514	80	04/04/1994

## FOREIGN PATENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	9	EP 411 766 A1	02/06/1991	EUROPEAN	C07D	239/91		
	10	EP 445 811 B1	09/11/1991	EUROPEAN	C07D	213/80		
	11	EP 481 614	04/22/1992	EUROPEAN	C07D	471/04		
	12	JP 09286792	11/04/1997	JAPAN			Abstract	X
	13	WO 1993/03034	07/22/1992	PCT	CO7D	487/04		
	14	WO 1993/04077	08/21/1992	PCT	CO7H	15/26		
	15	WO 1995/24410	09/14/1995	PCT	CO7F	9/6512	Abstract	X
	16	WO 1997/08153	03/06/1997	PCT	C07D	239/90	Abstract	X
	17	WO 1997/10221	03/20/1997	PCT	C07D	239/88		

EXAMINER :

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

## FOREIGN PATENTS:

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	18	WO 1997/10221	03/20/1997	PCT	C07D	239/88		
	19	WO 1998/26664	07/25/1998	PCT	A01N	43/54		
	20	WO 1999/08501	02/25/1999	PCT	C07D	265/12		
	21	WO 2000/027831	05/18/2000	PCT	C07D	265/12		
	22	WO 2001/023365	04/05/2001	PCT	C07D	239/91		
	23	WO 2001/098278	12/27/2001	PCT	C07D	239/91		
	24	WO 2002/048115	06/20/2002	PCT	C07D	239/00		
	25	WO 2002/083143	10/24/2002	PCT	C07D	239/91		
	26	WO 2003/026652	04/03/2003	PCT	C07D	471/16		
	27	WO 2003/035075	05/01/2003	PCT	C07D	473/34		
	28	WO 2003/048081	06/12/2003	PCT	C07C			
	29	WO 2003/048158	06/12/2003	PCT	C07D	405/10		
	30	WO 2003/076418	09/18/2003	PCT	C07D	239/91		
	31	WO 2003/106435	12/24/2003	PCT	C07D	239/91		
	32	WO 2004/013111	02/12/2004	PCT	C07D	239/91		
	33	WO 2004/024161	03/25/2004	PCT	C07D	403/04		
	34	WO 2004/024162	03/25/2004	PCT	C07D	239/95		

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

	35	Eid et al., 14(5) <i>European Journal of Medicinal Chemistry</i> 463-6 (1979).
	36	Gupta et al., 50(4) <i>Proceedings of the National Academy of Sciences, India</i> 189-94
	37	Kulkarni et al., 60(9) <i>Journal of the Indian Chemical Society</i> 906-7 (Sept. 1983).
	38	Misra et al., 29(5) <i>Journal of Pharmacology and Pharmacy</i> 543-8 (1977)
	39	Misra et al., 30(4) <i>Polish Journal of Pharmacology and Pharmacy</i> 573-7 (1978).
	40	Misra et al., 31(2) <i>Polish Journal of Pharmacology and Pharmacy</i> 161-7 (1979).
	41	Misra et al., 55(10) <i>Journal of the Indian Chemical Society</i> 1046-8 (1978).
	42	Misra et al., 67(2) <i>Indian Journal of Medical Research</i> 310-14 (1978).
	43	Pandey, 26(4) <i>Indian Drugs</i> 168-71 (1989).
	44	Pandey, 54(11) <i>Journal of the Indian Chemical Society</i> 1084-6 (1977).

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformation with MPEP609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

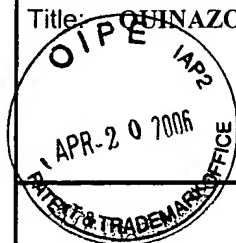
**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT**  
**(Under 37 CFR 1.97(b) or 1.97(c))**

Docket No.  
**50821/5**

In Re Application Of: **Shcherbakova et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/531,616	April 12, 2005	Tamthom Ngo Truong	32642	1624	4723

Title: **QUINAZOLINONE COMPOUNDS AS CALCILYTICS**



Address to:  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

**37 CFR 1.97(b)**

1. ☐ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

**37 CFR 1.97(c)**

2. ☒ The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:
- ☐ the statement specified in 37 CFR 1.97(e);
- OR**
- ☒ the fee set forth in 37 CFR 1.17(p).



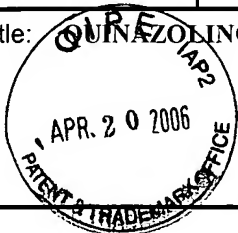
**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT**  
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.  
50821/5

In Re Application of: Shcherbakova et al.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/531,616	April 12, 2005	Tamthom Ngo Truong	32642	1624	4723

Title: QUINAZOLINONE COMPOUNDS AS CALCILYTICS



**Payment of Fee**

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- ☐ A check in the amount of \_\_\_\_\_ is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. \_\_\_\_\_ as described below.
- ☐ Charge the amount of \_\_\_\_\_
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.
- ☒ Payment by credit card. Form PTO-2038 is attached.

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Signature

Dated: APRIL 17, 2006

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CC: